

Abstract Submitted
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Results from a new Cocks-Ashby style porosity model¹ NATHAN BARTON, Lawrence Livermore National Laboratory — A new porosity evolution model will be described, along with preliminary results. The formulation makes use of a Cocks-Ashby style treatment of porosity kinetics that includes rate dependent flow in the mechanics of porosity growth. The porosity model is implemented in a framework that allows for a variety of strength models to be used for the matrix material, including ones with significant changes in rate sensitivity as a function of strain rate. Results of the effect of changing strain rate sensitivity on porosity evolution will be shown. The overall constitutive model update involves the coupled solution of a system of nonlinear equations – efficiency and robustness of the numerical implementation are significant issues.

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